

## **General Disclaimer**

### **One or more of the Following Statements may affect this Document**

- This document has been reproduced from the best copy furnished by the organizational source. It is being released in the interest of making available as much information as possible.
- This document may contain data, which exceeds the sheet parameters. It was furnished in this condition by the organizational source and is the best copy available.
- This document may contain tone-on-tone or color graphs, charts and/or pictures, which have been reproduced in black and white.
- This document is paginated as submitted by the original source.
- Portions of this document are not fully legible due to the historical nature of some of the material. However, it is the best reproduction available from the original submission.

(NASA-TM-87372) DOCUMENTATION FOR THE  
MACHINE-READABLE VERSION OF THE MK  
CLASSIFICATION EXTENSION CATALOGUE  
MORRIS-KENNEDY (1983) (NASA) 16 P  
HC A02/MF A01

N85-13491

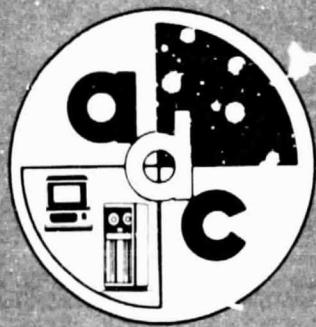
Unclassified  
CSCL 09B G3/61 24614



83-11

Documentation for the Machine-Readable Version  
of the  
MK CLASSIFICATION EXTENSION CATALOGUE  
OF MORRIS-KENNEDY (1983)

October 1983



DOCUMENTATION FOR THE MACHINE-READABLE VERSION

OF THE

MK CLASSIFICATION EXTENSION CATALOGUE

OF MORRIS-KENNEDY (1983)

Wayne H. Warren Jr.

October 1983

National Space Science Data Center (NSSDC)/  
World Data Center A for Rockets and Satellites (WDC-A-R&S)  
National Aeronautics and Space Administration  
Goddard Space Flight Center  
Greenbelt, Maryland 20771

**DOCUMENTATION FOR THE MACHINE-READABLE VERSION**

**OF THE**

**MK CLASSIFICATION EXTENSION CATALOGUE**

**OF MORRIS-KENNEDY (1983)**

**Wayne H. Warren Jr.**

**ABSTRACT**

Detailed descriptions of the contents and formats of the data and reference files of the machine-readable catalog are provided. The catalog contains MK classifications published in the literature since the issuance of the La Plata catalog of C. Jaschek et al. (1964). The bibliographical references are also given.

**PRECEDING PAGE BLANK NOT FILMED**

## TABLE OF CONTENTS

Section 1 - INTRODUCTION AND SOURCE REFERENCE .....	1-1
Section 2 - TAPE CONTENTS .....	2-1
Section 3 - TAPE CHARACTERISTICS .....	3-1
Section 4 - REMARKS, MODIFICATIONS, AND REFERENCES .....	4-1
Section 5 - SAMPLE LISTING .....	5-1

## LIST OF TABLES

### Table

1 Tape Contents, Data File .....	2-1
2 Tape Contents, Reference File .....	2-4
3 Tape Characteristics .....	3-1

PRECEDING PAGE BLANK NOT FILMED

## SECTION 1 - INTRODUCTION AND SOURCE REFERENCE

The machine-readable MK Classification Extension Catalogue (Morris-Kennedy 1983) provides MK classifications published in the literature since the appearance of the Catalogue of Stellar Spectra Classified in the Morgan-Keenan System (C. Jaschek et al. 1964). This version is comprehensive and supersedes all previous versions of the computerized catalog. In addition to the MK types, the catalog contains *UBV* photometry for reference purposes only where such photometry was available; however, for comprehensive photometric data, the catalogs of photoelectric photometry should be consulted. The catalog also contains miscellaneous comments such as identifications for components of multiple-star systems, cluster identifications, etc. for selected stars, although again, this information is for reference only and is not professed to be complete. A second file of the catalog contains the bibliographical references cited in the data file.

This document describes the machine-readable catalog as it is currently being distributed by the Astronomical Data Center. It is intended to enable users to read and process the data without problems and guesswork. Since the machine files are essentially unmodified from the original version received from the author, it would be helpful for the document to be distributed with any machine-readable copy of the catalog.

### SOURCE REFERENCE

Morris-Kennedy, P. 1983, Mount Stromlo Observatory, unpublished.

## SECTION 2 - TAPE CONTENTS

Byte-by-byte descriptions of the contents of the MK Classification Extension Catalogue files are given in Tables 1 and 2. The suggested format specifications apply to FORTRAN formatted reads and can be modified depending upon individual programming and processing requirements. Since data fields are blank where values are missing, care must be exercised when processing data which have valid zero values, e.g. color indices. It is suggested that these fields be read initially with character (A) format specifications and checked for blanks if they are to be used for calculations or search purposes. Default values are always blanks for fields read with character formats. Alternate format specifications are given in parentheses.

**Table 1. Tape Contents. MK Classification Extension Catalogue (1983). Data File.**

Byte(s)	Units	Suggested Format	Default Value	Description
1- 7	---	A7 (7A1)	---	Number assigned to catalog by the Centre de Données Stellaires, Strasbourg. The four-digit number is followed by a letter "A" (first file) or "B" (second file) and the two-digit year of this edition. All records in this catalog contain 3078A83 or 3078B83.
8	---	1X	---	Blank
9-19	---	11A1	---	Object identification. Entries are ordered in the catalog with the following priority:  HD numbers in ascending numerical order; HDE numbers in ascending numerical order; DM numbers in descending zone and increasing numerical order; other designations, such as personal lists, variable-star names etc.;  where HD is the Henry Draper Catalogue (Cannon and Pickering 1918-1924), HDE its extensions (Cannon 1925-1936, Cannon and

Table 1. (continued)

Byte(s)	Units	Suggested Format	Default Value	Description
				Walton Mayall 1949); DM refers to the Durchmusterung catalogs (see Fernandez, Lortet and Spite 1983 for references).
20-21	---	2X	---	Blank
22-23	hours	I2 (A2)	blank	Right ascension, $\alpha$ , equinox 2000. Where coordinates are unknown, e.g. for faint cluster stars, they are omitted.
24	---	1X	---	Blank
25-28	min	F4.1 (A4)	blank	$\alpha$
29-30	---	2X	---	Blank
31	---	A1	---	Sign of declination, $\delta$ , equinox 2000. Plus signs are omitted.
32-33	°	I2 (A2)	blank	$\delta$
34	---	1X	---	Blank
35-36	'	I2 (A2)	blank	$\delta$
37-38	---	2X	---	Blank
39-55	---	17A1	---	MK spectral type. The W in Wolf-Rayet types will be found in byte 39, as will a left parenthesis for uncertain types. The temperature class is in byte 40, but other characters are also there, e.g. P (peculiar), the D in $\delta$ DEL types, etc.; the temperature subclass is in bytes 42-44, but other characters can be there too. Bytes 45-55 contain luminosities, peculiarities, etc.
56-58	---	I3	---	Reference number for the MK type. The references are ordered by number in the second file.

Table 1. (concluded)

Byte(s)	Units	Suggested Format	Default Value	Description
59-60	---	2X	---	Blank
61-65	mag	F5.2 (A5)	blank	V magnitude as taken from the literature. Data are reported to varying precision; if reported to 0.1 mag, byte 65 is blank.
66	---	A1	blank	V if V variable, but if a V magnitude is reported to 0.001, byte 66 contains the last digit; hence the full V field (bytes 61-66) cannot be read as a real number due to the possible occurrence of "V".
67	---	1X	---	Blank
68-71	mag	F4.2 (A4)	blank	B-V color. Plus signs are omitted.
72	---	1X	---	Blank
73-77	mag	F5.2 (A5)	blank	U-B color. Plus signs are omitted.
78-79	---	2X	---	Blank
80-82	---	A3	---	Reference number for source of photometry.
83-88	---	A6 (6A1)	---	Remarks. Can be component identification, variable-star names, cluster membership, HDE numbers (6 digits), miscellaneous identifications. Byte 88 contains an asterisk for stars classified by Morgan and Keenan (1973) for the revised MK system.

Table 2. Tape Contents. MK Classification Extension Catalogue (1983).  
Reference File

Byte(s)	Suggested Format	Description
1- 7	A7 (7A1)	Number assigned by the Centre de Données Stellaires, Strasbourg (see Table 1)
8	1X	Blank
9-88	8A10 (80A1)	Reference or comments in a generally uniform format, although there are comments at the end of the list. In the bibliography, the reference number is given in bytes 10-12, the bibliographic reference in 14-37, the author(s) in 40-77, and comments (OP for objective-prism classification, PHOT for photometric classification) at the end of a record.

### SECTION 3 - TAPE CHARACTERISTICS

The information contained in Table 3 is sufficient for a user to describe the indigenous characteristics of the files of the MK Classification Extension Catalogue to a computer. Information easily varied from installation to installation, such as block size (physical record length), blocking factor (number of logical records per physical record), total number of blocks, tape density, and internal coding (EBCDIC, ASCII, etc.) is not included. These parameters should always be supplied if secondary copies are transmitted to other installations. Parameters relating to the two files of the catalogue are separated by commas.

Table 3. Tape Characteristics. MK Classification Extension Catalogue (1983).

NUMBER OF FILES .....	2
LOGICAL RECORD LENGTH .....	88, 88
RECORD FORMAT .....	FB*
TOTAL NUMBER OF LOGICAL RECORDS .....	35997, 416

\* Fixed block length (last block may be short)

#### SFCTION 4 - REMARKS, MODIFICATIONS AND REFERENCES

The machine-readable MK Classification Extension Catalogue, version 1983 was received on magnetic tape from the Centre de Données Stellaires, Strasbourg on 1 April 1983. The only modifications made to the data files involved the deletion of three trailing blank records from the data file and thirty-three trailing blank records from the reference file.

#### REFERENCES

Cannon, A. J. 1925-1936, *The Henry Draper Extension*, Ann. Astron. Obs. Harvard College 100.

Cannon, A. J. and Pickering, E. C. 1918-1924, *The Henry Draper Catalogue*, Ann. Astron. Obs. Harvard College 91-99.

Cannon, A. J. and Walton Mayall, M. 1949, *The Henry Draper Extension, The Annie J. Cannon Memorial Volume*, Ann. Astron. Obs. Harvard College 112.

Fernandez, A., Lortet, M.-C. and Spite, F. 1983, *The First Dictionary of the Nomenclature of Celestial Objects*, Astron. Astrophys. Suppl. 52, No. 4.

Jaschek, C., Conde, H. and de Sierra, A. C. 1964, *Catalogue of Stellar Spectra Classified in the Morgan-Keenan System*, Pub. La Plata Obs., Ser. Astron. 28, No. 2.

Morgan, W. W. and Keenan, P. C. 1973, *Annu. Rev. Astron. Astrophys.* 11, 29.

Morris-Kennedy, P. 1983, Mount Stromlo Observatory, unpublished.

## SECTION 5 - SAMPLE LISTING

The sample listing given on the following pages contains logical data records exactly as they are recorded on the tape. Groups of records from the beginning and end of each file of the catalog are illustrated. The beginning of each record and bytes within the record are indicated by the column heading index across the top of each page (digits read vertically).





卷之三

TAPE FILE: NAME: UK EDITION 1963 Buts

RECORDS 1 TO 30

TIME TRIP 11

IMI-E 1112-1

FD LPNG; TH 98 BYTES

卷之三

WOLSEY 401

卷之三

98/134012/BBB/98/

卷之三

RECORD	1	3076B83	1	AP J SUP	2	389	1956	HILTNER
RECORD	2	3076B83	2	AP J	112	68	1960	MITCHELL
RECORD	3	3076B83	3	TOUL ANN	27	47	1960	BOIGUE
RECORD	4	3076B83	4	AP J	133	80	1961	HARDIE, CRAWFORD
RECORD	5	3076B83	5	AP J	134	80	1961	TOSSET
RECORD	6	3076B83	6	TOUL ANN	28	33	1961	ROUTIUE, BOULON, PODOUSSAT
RECORD	7	3076B83	7	AP J	129	60	1959	HARDIE, SEYFERT
RECORD	8	3076B83	8	AP J	128	207	1958	MENDOZA
RECORD	9	3076B83	9	AP J	134	195	1961	SLETTEBAK ET AL.
RECORD	10	3076BF3	10	AP J	135	298	1962	PERMIE
RECORD	11	3076B83	11	AP J	136	35	1962	ABT, GOLSON
RECORD	12	3076B83	12	AP J	126	767	1962	SHARPLESS
RECORD	13	3076B83	13	AP J	136	793	1962	WILSON
RECORD	14	3076B83	14	ASTRON J	67	37	1962	UPGREEN
RECORD	15	3076B83	15	ASTRON J	67	740	1962	KLEMOLA
RECORD	16	3076B83	16	NNRAS	124	359	1962	WESSELINK
RECORD	17	3076B83	17	NNRAS	125	557	1962	ARGUET
RECORD	18	3076BF3	18	PUSNO	17	347	1961	
RECORD	19	3076B83	19	ARK P ASTR	2	379	1959	LYNGA
RECORD	20	3076B83	20	AP J	137	530	1963	CRAWFORD
RECORD	21	3076B83	21	AP J	137	547	1963	PESCH
RECORD	22	3076BF3	22	AP J	138	356	1963	EGGEN
RECORD	23	3076B83	23	NNRAS	125	105	1963	WHITEJACK
RECORD	24	3076BF3	24	NNRAS	126	61	1963	WARNER
RECORD	25	3076B83	25	ROY OB BUL	NO 64	1963	CONSINS, STROY	
RECORD	26	3076B83	26	TOUL ANN	29	17	1961	BOIGUE
RECORD	27	3076B83	27	J DES OBS	46	319	1963	BIGAY
RECORD	28	3076BF3	29	ASTRON J	68	697	1963	EGGEN
RECORD	29	3076B83	29	ASTRON J	59	233	1954	MICZAIKA
RECORD	30	3076BF3	30	AP J	139	1105	1964	TOBERT

ORIGINAL PAGE IS  
OF POOR QUALITY

DISSENTING OPINION OF TRAPÉZI

```

TAPe FILE NAME: MK Extension 1943 R1FS
      RECORDS    387 TO   416
      TAP2 FILE 44
      RECORD LENGTH 8E BYTES
      INPUT VOLSPR
      ADC003

```

RECORD	387	3078B83	962	ASTRON + AP	17	253	1972	MARTIN	UP
RECORD	383	3078B83	963	ASTRON + AP	18	301	1972	BIGAY, GARNIER, GEORGELIN	UP
RECORD	369	3078B83	964	P A S P		84	446	BOND	UP
RECORD	393	3078B83	965	ASTRON J	78	401	1973	WEHINGER, HIDAJAT	UP
RECORD	391	3078B83	966	ABAST BULL	44	3	1973	TCHIPASHVILI	OP
RECORD	392	3078B83	967	ABAST BULL	44	55	1973	ZATTSEVA	OF
RECORD	393	3078B83	968	ABAST BULL	44	105	1973	CHUNDZE	OF
RECORD	394	3078B83	969	ABAST BULL	44	175	1973	KAZANASMAS	OP
RECORD	395	3078B83	970	ABAST BULL	44	231	1973	MISKIN	OP
RECORD	196	3078B83	971	ASTRON J	79	107	1974	MCCUSKEY	OP
RECORD	397	3078B83	972	ASTRON J	79	1022	1974	CLARIA	OP
RECORD	398	3078B83	973	A + AP SUP	20	289	1975	FITZGERALD, HUFFAT	UP
RECORD	399	3078B83	979	A + AP SUP	24	35	1976	STOCK PT AL (*S GIVEN AS LMC MEMBERS OMITTED)	OP
RECORD	403	3078B83	980	ASTRON J	81	225	1976	HACCONNEL, BIDELMAN	OP
RECORD	401	3078B83	981	A + AP SUP	23	393	1976	BLAUM ET AL.	OP
RECORD	402	3078B83	982	ASTRON J	84	783	1979	DRILLING, LANDOLT	UP
RECORD	403	3078B83	990	A + AP SUPP 45	455	1981	JENSEN		
RECORD	408	3078B83	BB	SEE BOK & BASINSKI, NED. MT.	STROMLO OBS NO 16.	1964			
RECORD	405	3078B83	BS	SEP. STEPHOLM, A + AP	39.	307.	1975		
RECORD	406	3078B83	LPS	SEP ASTRON J	69,412,1964				
RECORD	407	3078B83	LPS	SPP. SMITH, M N R A S	138,	109	1968		
RECORD	408	3078B83	LS I	LUMINOUS STARS IN THE NORTHERN MILKY WAY I ,	1953				
RECORD	409	3078B83	LYNGA SE' ARK. F. ASTR.	, 3, NO. 8					
RECORD	413	3078B83	MCP	MCCULLICK PROPER MOTION AREAS - MCCORNICK PUBLIS 7 AND 10					
RECORD	411	3078B83	X5	SEE HACCONNEL & SANDULPAK, PAS P 42, 80,	1970				
RECORD	412	3078B83	RWT	SEE REFERENCE 361 AND ASTRON J 76, 1099, 1971					
RECORD	413	3078B83		AND ASTRON J 79, 1406, 1974					
RECORD	414	3078B83	SW	SEE REFERENCE 130					
RECORD	415	3078B83	W	SEE REFERENCE 301					
RECORD	415	3078B83	WRA	SEE REFERENCE 301					

ORIGINAL PAGE IS  
OF POOR QUALITY